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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,229	09/20/2005	Gero Schollmeier	2004P01286WOUS	7791

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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

DONABED, NINOS J

ART UNIT	PAPER NUMBER
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2109

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,229

Applicant(s)

SCHOLLMEIER ET AL.

Examiner

Ninos Donabed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 09/20/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the 't' in 'the' should be capitalized in paragraph [0004] Line 4. .

Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 9-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The mere listing of method steps in **Claim 9** does not produce a useful, concrete **and tangible** result because nothing is done after the link weights are adapted in the communication network. Thus does not meet the statutory requirements for patent eligibility under 35 U.S.C. 101.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 9-27** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The use of the words “**respect**” and “**relation**” in the preamble render it unclear.

Step f of claim 9 is unclear and does not distinctly claim the invention.

Claims 10-27 are rejected because they depend from claim 9.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Denecheau et al. (**United States Patent No. 6,611,874**) herein referred to as Denecheau.

As best understood, regarding **claim 9**, Denecheau teaches a method for adapting link weights in a communication network formed with links for an optimized traffic distribution within the communication network in respect of a traffic volume expected for the communication network and in relation to a parameter relating to the link usage, the method comprising:

a) assigning start values for the link weights to the links of the communication network; (**See Col. 2 Lines 28-44, Denecheau discloses assigning start values for 3 routes or links – which in this particular example he assigns three equal routes or costs**)

b) calculating paths for routing of traffic within the communication network on the basis of the link weights; **(See Col. 2 Lines 29-44, Denecheau discloses the calculation of multiple routes using the OSPF routing protocol)**

c) determining the values of the parameter for the links using the calculated paths and the expected traffic volume; **(See Col. 7 Lines 29-67, Denecheau discloses dynamically computing all possible paths)**

d) determining such link for which the parameter has the highest value; and **(See Col. 1 Line 63 to Col. 3 Line 9, Denecheau discloses the best path (highest value for the best path))**

e) increasing the link weight for the determined link, wherein f) the steps b), c), d) and e) are repeated until the value of the parameter for the determined link is higher than the parameter value for the determined link relative to a preceding step d), wherein **(See Col. 2 Lines 10-38, Denecheau discloses increasing link weight (highest value or lowest cost) of a link and sending over the lowest cost route)**

f) the steps b), c), d) and e) are repeated until the value of the parameter for the determined link is higher than the parameter value for the determined link relative to a preceding step d), wherein **(See Col. 8 Line 49 to Col. 9 Line 11, Denecheau discloses repeating the steps in order to minimize the network costs)**

the steps a) to f) are performed with the aid of a data processor. **(See Col. 4 Lines 43-52, Denecheau discloses data processed on a host system using several different protocols)**

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As best understood, regarding **claim 10**, Denecheau further teaches the method in accordance with claim 9, wherein the parameter is produced by an absolute traffic load, a relative traffic load related to link bandwidth traffic-related costs arising for using the link, a link availability, a delay time of the relevant link, or the load capabilities of an end node of the relevant link. **(See Col. 7 Lines 16-27, Denecheau discloses traffic operation by balancing traffic over different routes)**

As best understood, regarding **claim 11**, Denecheau further teaches the method in accordance with claim 9, wherein start values for the link weights are the same for all links. **(See Col. 12 Lines 28-44 and figure 1, Denecheau discloses three equal routes at start)**

As best understood, regarding **claim 12**, Denecheau further teaches the method in accordance with claim 10, wherein the start values for the link weights are the same for all links. **(See Col. 12 Lines 28-44 and figure 1, Denecheau discloses three equal routes at start)**

As best understood, regarding **claim 13**, Denecheau further teaches the method in accordance with claim 9, wherein the paths are calculated using the OSPF (open shortest path first) protocol or the IS-IS (Intermediate System - Intermediate System) protocol. **(See Col. 2 Lines 28-37, Denecheau discloses the OSPF (open shortest path first) protocol)**

As best understood, regarding **claim 14**, Denecheau further teaches the method in accordance with claim 10, wherein the paths are calculated using the OSPF (open shortest path first) protocol or the IS-IS (Intermediate System - Intermediate System) protocol. **(See Col. 2 Lines 28-37, Denecheau discloses the OSPF (open shortest path first) protocol)**

As best understood, regarding **claim 15**, Denecheau further teaches the method in accordance with claim 11, wherein the paths are calculated using the OSPF (open shortest path first) protocol or the IS-IS Intermediate System - Intermediate System) protocol. **(See Col. 2 Lines 28-37, Denecheau discloses the OSPF (open shortest path first) protocol)**

As best understood, regarding **claim 16**, Denecheau further teaches the method in accordance with claim 9, wherein the paths calculated if the abort criterion f) is fulfilled are used for routing within the framework of the ECMP (Equal Cost Multi Path) concept. **(See Col. 2 Lines 10-27, Denecheau discloses ECMP, load balancing per packet multi-path algorithm)**

As best understood, regarding **claim 17**, Denecheau further teaches the method in accordance with claim 10, wherein the paths calculated if the abort criterion f) is fulfilled are used for routing within the framework of the ECMP (Equal Cost Multi Path)

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concept. **(See Col. 2 Lines 10-27, Denecheau discloses ECMP, load balancing per packet multi-path algorithm)**

As best understood, regarding **claim 18**, Denecheau further teaches the method in accordance with claim 11, wherein the paths calculated if the abort criterion f) is fulfilled are used for routing within the framework of the ECMP (Equal Cost Multi Path) concept. **(See Col. 2 Lines 10-27, Denecheau discloses ECMP, load balancing per packet multi-path algorithm)**

As best understood, regarding **claim 19**, Denecheau further teaches the method in accordance with claim 13, wherein the paths calculated if the abort criterion f) is fulfilled are used for routing within the framework of the ECMP (Equal Cost Multi Path) concept. **(See Col. 2 Lines 10-27, Denecheau discloses ECMP, load balancing per packet multi-path algorithm)**

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denecheau.

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As best understood, regarding **claim 20**, Denecheau further teaches the method in accordance with claim 9, wherein the link weights and their increase are always expressed by whole numbers.

Denecheau teaches all the limitations of claim 9.

Denecheau does not specifically disclose the possible usage of whole numbers when expressing link weights and their increases.

It would have been obvious to someone of ordinary skill in the art at the time of the invention to use whole numbers when expressing link weights and their increases because it is a design choice that could make the calculations of the link weights and their increases processed more quickly, and viewed more easily.

As best understood, regarding **claim 21**, Denecheau further teaches the method in accordance with claim 10, wherein the link weights and their increase are always expressed by whole numbers.

Denecheau teaches all the limitations of claim 10.

Denecheau does not specifically disclose the possible usage of whole numbers when expressing link weights and their increases.

It would have been obvious to someone of ordinary skill in the art at the time of the invention to use whole numbers when expressing link weights and their increases because it is a design choice that could make the calculations of the link weights and their increases processed more quickly, and viewed more easily.

As best understood, regarding **claim 22**, Denecheau further teaches the method in accordance with claim 11, wherein the link weights and their increase are always expressed by whole numbers.

Denecheau teaches all the limitations of claim 11.

Denecheau does not specifically disclose the possible usage of whole numbers when expressing link weights and their increases.

It would have been obvious to someone of ordinary skill in the art at the time of the invention to use whole numbers when expressing link weights and their increases because it is a design choice that could make the calculations of the link weights and their increases processed more quickly, and viewed more easily.

As best understood, regarding **claim 23**, Denecheau further teaches the method in accordance with claim 9, wherein the link weight is increased for both directions of transmission of the link for the link determined.

Denecheau teaches all the limitations of claim 9.

Denecheau does not specifically disclose that the link weight is increased for both directions of transmission of the link.

It would have been obvious to someone of ordinary skill in the art at the time of the invention to increase the link weight for both directions of

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transmission of the link because it would be efficient to do so. For example, providing the same link weight for a path from point A to point B and from point B to point would have been obvious to someone of ordinary skill in the art because it is the same path just different directions.

As best understood, regarding **claim 24**, Denecheau further teaches the method in accordance with claim 10, wherein the link weight is increased for both directions of transmission of the link for the link determined.

Denecheau teaches all the limitations of claim 10.

Denecheau does not specifically disclose that the link weight is increased for both directions of transmission of the link.

It would have been obvious to someone of ordinary skill in the art at the time of the invention to increase the link weight for both directions of transmission of the link because it would be efficient to do so. For example, providing the same link weight for a path from point A to point B and from point B to point A would have been obvious to someone of ordinary skill in the art because it is the same path just different directions.

As best understood, regarding **claim 25**, Denecheau further teaches the method in accordance with claim 11, wherein the link weight is increased for both directions of transmission of the link for the link determined.

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Denecheau teaches all the limitations of claim 11.

Denecheau does not specifically disclose that the link weight is increased for both directions of transmission of the link.

It would have been obvious to someone of ordinary skill in the art at the time of the invention to increase the link weight for both directions of transmission of the link because it would be efficient to do so. For example, providing the same link weight for a path from point A to point B and from point B to point would have been obvious to someone of ordinary skill in the art because it is the same path just different directions.

8. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denecheau in view of Oki et al., **U.S. Patent Application Publication No. US 2003/0156536**, herein referred to as **Oki**.

As best understood, regarding **claim 26**, Denecheau further teaches the method in accordance with claim 9, wherein the expected traffic volume is described by the traffic matrix.

Denecheau teaches all the limitations of claim 9.

Denecheau does not specifically disclose the expected traffic volume is described by the traffic matrix.

Oki teaches a traffic matrix which describes the expected traffic volume. (See paragraphs [0134] through [0138], Oki et al. discloses the use of a traffic matrix representing the expected traffic volume)

It would have been obvious to someone of ordinary skill in the art at the time of the invention to use the traffic matrix found in Oki et al. along with the disclosure of Denecheau because the traffic matrix can be used to help predict influence of weight changes of links on traffic flow.

As best understood, regarding claim 27, Denecheau further teaches the method in accordance with claim 10, wherein the expected traffic volume is described by the traffic matrix.

Denecheau teaches all the limitations of claim 10.

Denecheau does not specifically disclose the expected traffic volume is described by the traffic matrix.

Oki et al. (U.S. Patent Application Publication No. US 2003/0156536) teaches a traffic matrix which describes the expected traffic volume. (See paragraphs [0134] through [0138], Oki et al. discloses the use of a traffic matrix representing the expected traffic volume)

It would have been obvious to someone of ordinary skill in the art at the time of the invention to use the traffic matrix found in Oki et al. along with the disclosure of Denecheau because the traffic matrix can be used to help predict influence of weight changes of links on traffic flow.

Conclusion

9. Any response to this Office Action should be **faxed** to (571) 272-8300 or **mailed** to:

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ninos Donabed whose telephone number is (571) 270-3526. The examiner can normally be reached on Monday-Friday, 7:30 AM-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on (571) 272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ninos Donabed
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